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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,443	09/26/2000	Michael John Cullen	200-0767	2938

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EXAMINER

PANG, ROGER L

ART UNIT	PAPER NUMBER
3681	11

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/669,443	Applicant(s) CULLEN ET AL.01
	Examiner Roger L Pang	Art Unit 3681

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 April 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 13-17 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4, 6-12, 18 and 19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 10.
- 4) Interview Summary (PTO-413) Paper No(s) _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

The following action is in response to the communications filed for application 09/669,443 on April 19, 2002.

Election/Restrictions

Claims 5, and 13-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 7.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 6-12, and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claim 1, the limitation of "a driver" on line 4 is positively claimed, but is not a limitation of the invention. It is suggested that applicant remove "the vehicle operated by a driver" on lines 3-4. With regard to claim 10, once again the limitation of "a driver" is being claimed. It is suggested that applicant replace "a driver has released an accelerator pedal" with --an accelerator pedal has been released--. With regard to claim 12, the limitation of "said maximum allowed vehicle trajectory" lacks antecedent basis. Applicant is suggested to replace "maximum allowed" with --desired--. With regard to claim 18, see rejection of claim 1 above.

Claim Objections

Claim 9 is objected to because of the following informalities: on line 2, the word “level” should be replaced with --lever--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 10, 12, and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Togai ‘558. With regard to claim 1, Togai teaches a method for controlling a powertrain coupled to a vehicle, the powertrain having an internal combustion engine 4 coupled to a transmission 20, the method comprising: determining a desired vehicle trajectory V; adjusting an engine operating parameter 6 to maintain positive powertrain output when an actual vehicle trajectory Va is below said desired vehicle trajectory; and adjusting said engine operating parameter to transition from positive powertrain output to negative powertrain output when said actual vehicle trajectory is above said desired vehicle trajectory (Fig. 4). With regard to claim 2, Togai teaches the method further comprising limiting powertrain output rate of change during said transition.¹⁰⁷. With regard to claim 3, Togai teaches the method wherein said step of adjusting said engine operating parameter to transition from positive powertrain output to negative powertrain output further comprises adjusting said engine operating parameter to transition from positive powertrain output to negative powertrain output when said actual vehicle trajectory Va is above said desired vehicle trajectory V by a predetermined amount (i.e. .01 kph).

With regard to claim 4, Togai teaches the method wherein said vehicle trajectory is a vehicle speed trajectory V. With regard to claim 7, Togai teaches the method wherein said desired vehicle trajectory is based on vehicle and engine operating conditions (i.e. Ne, V, etc.). With regard to claim 10, Togai teaches the method wherein adjusting steps are executed when an accelerator has been released 15. With regard to claim 12, Togai teaches the method further comprising the step of controlling powertrain output to a required negative powertrain output to maintain said vehicle trajectory at or below said desired vehicle trajectory (Fig. 4). With regard to claim 18, Togai teaches a method for controlling a powertrain coupled to a vehicle, the powertrain having an internal combustion engine 4 coupled to a transmission 20, the method comprising: determining a desired vehicle speed trajectory V; adjusting an engine torque to maintain positive powertrain output when an actual vehicle speed trajectory Va is below said desired vehicle speed trajectory; and adjusting said engine torque to transition from positive powertrain output to negative powertrain output when said actual vehicle speed trajectory is above said desired vehicle speed trajectory (Fig. 4). With regard to claim 19, Togai teaches the method wherein said desired vehicle speed trajectory is based on a vehicle operating parameter (i.e. Ne, etc.).

Claims 1-2, and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Imai '045. With regard to claim 1, Imai teaches a method for controlling a powertrain coupled to a vehicle, the powertrain having an internal combustion engine 1 coupled to a transmission 3, the method comprising: determining a desired vehicle trajectory x; adjusting an engine operating parameter gt to maintain positive powertrain output when an actual vehicle trajectory x is below said desired vehicle trajectory; and adjusting said engine operating parameter to transition from

positive powertrain output to negative powertrain output when said actual vehicle trajectory is above said desired vehicle trajectory 156. With regard to claim 2, Imai teaches the method further comprising limiting powertrain output rate of change during said transition gt. With regard to claim 8, Imai teaches the method wherein said desired vehicle trajectory is based on a position of a transmission lever 108. With regard to claim 9, Imai teaches the method wherein the lever selects between at least the following gears: reverse R, neutral N, a first forward 1, and a second forward 2 (Fig. 17).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Togai as applied to claim 1 above, and further in view of Fukasawa. With regard to claim 6, Togai teaches the method wherein the engine is coupled to the transmission via a torque converter 9, but lacks the particular teaching wherein positive powertrain output is maintained by torque converter control. Fukasawa teaches a powertrain wherein an engine 2 is coupled to a transmission via a torque converter (Col. 1, line 13), wherein positive powertrain output is maintained by maintaining torque converter input speed greater than torque converter output speed S140. It would have been obvious to one of ordinary skill at the time of the invention to modify Togai to employ the torque converter control in view of Fukasawa in order to prevent

unexpected engine stall (Col. 1, lines 65-66). With regard to claim 11, Togai teaches the method wherein the engine is coupled to the transmission via a torque converter 9, but lacks the particular teaching wherein said torque converter is unlocked while maintaining positive powertrain output and then locked after transitioning from positive to negative powertrain output. Fukasawa teaches a powertrain wherein an engine 2 is coupled to a transmission via a torque converter (Col. 1, line 13), wherein said torque converter is unlocked while maintaining positive powertrain output and then locked after transitioning from positive to negative powertrain output (Fig. 3). It would have been obvious to one of ordinary skill at the time of the invention to modify Togai to employ the torque converter control in view of Fukasawa in order to prevent unexpected engine stall (Col. 1, lines 65-66).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sen and Wakahara have been cited to show similar lock-up controls during positive and negative powertrain outputs.

Rettig, Tamai and Light have been cited to show similar engine control during overshooting and undershooting a desired vehicle trajectory.

FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is (703) 305-3597. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place

the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 305-3597) on _____ (Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark

Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roger L Pang whose telephone number is 703-305-0445. The examiner can normally be reached on 5:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 703-308-0830. The fax phone numbers for the organization where this application or proceeding is assigned are 705-305-3597 for regular communications and 705-305-3597 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

RLP
March 10, 2003


Roger Pang